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ABSTRACT

Based upon the philosophical position of contextualism, the common-sense idea of powerful, uniform, and universal media effects is largely untenable. Instead, researchers can more profitably view such effects as resulting from synthesized stimuli, of which media content is only one component. Thus, these phenomena should be called media-related effects, rather than media effects. Contextualism also implies a pluralism of both method and theory. In this regard both standardized and unstandardized indicators of the relationships among variables are needed to assess the importance of evidence concerning a media-related effect. More specifically, the routine reporting and interpretation of unstandardized indicators in nonexperimental research potentially could allow researchers to make a much stronger case for the theoretical or practical importance of effects than is possible at present. (Five notes and 28 references are attached.) (RAE)

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Assessing the import of media-related effects:

Some contextualist considerations

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Abstract

This paper discusses philosophical and methodological issues relating to the importance of evidence of mass communication effects. Based upon the philosophical position of contextualism, it argues that the common-sense idea of powerful, uniform, and universal media effects is largely untenable. Instead, researchers can more profitably view such effects as resulting from synthesized stimuli, of which media content is only one component. Thus, it suggests that these phenomena be called media-related effects, rather than media effects. Contextualism also implies a pluralism of both method and theory. In this regard, the paper argues that both standardized and unstandardized indicators of the relationships among variables are needed to assess the importance of evidence concerning a media-related effect. More specifically, it argues that the routine reporting and interpretation of unstandardized indicators in nonexperimental research potentially could allow researchers to make a much stronger case for the theoretical or practical importance of effects than is possible at present.

Assessing the import of media-related effects: Some contextualist considerations

The mass media "are of concern to basic theory or social policy only insofar as they have sizable impacts on the thoughts, feelings, or actions of the public," according to social psychologist William McGuire (1986, p. 233). Whether mass communication research has established itself as a respectably important academic discipline long has been questioned. For example, in "The myth of massive media impact: Savagings and salvagings," McGuire (1986) reviewed research evidence pertaining to a wide variety of hypothesized mass communication effects. Largely because of repeated findings of borderline statistical significance and generally low amounts of explained variation, McGuire concluded that surprisingly little evidence exists that the mass media have important effects. He complained that a number of trained communication researchers, who should know better, have examined "the published research on media effectiveness and still conclude that they have sizable impact" (p. 176). In a second, "salvaging," section of the chapter, however, McGuire also argued that the evidence fails to establish that the media do <u>not</u> have important effects. He reviewed a number of shortcomings of research, such as attenuated variance, that may account for the lack of strong evidence.

This paper will not attempt to salvage the "myth of massive media impact," if one means the simple, direct, and universal effects that media critics often assume to exist. On philosophical grounds alone,

such effects seem largely untenable. The arguments made here will reflect the version of philosophical pragmatism known as contextualism (Pepper, 1942), of which McGuire (1983) has presented one version and which appears to guide his discussion of mass-media effects. The paper will argue that what is commonly termed a mass-media effect can be thought of more usefully as an effect of synthesized stimuli, of which media content is only one component. Thus, it will use the term media-related effect.

More broadly, the paper concerns what it means to speak of important media-related effects. It will discuss methodological considerations that bear on the topic and that may help future researchers to establish the importance of their work. Given that an almost unlimited number of other factors potentially may affect any socially important outcome of media usage, the paper will argue that an often exclusive reliance on significance tests and measures of explained variation in assessing possible effects in nonexperimental research may have harmed the field. That is to say, if media exposure and a large number of other factors contribute to a specific behavior, the chances are that no one will account for massive amounts of the outcome (Huesmann, 1986). More specifically, it will argue that indicators of how much an intuitively meaningful dependent variable changes as media usage increases (e.g., unstandardized regression coefficients) often are not reported but could provide critical information about the possible import of media-related effects.

Contextualism

Contextualism is a philosophical "world hypothesis" for knowledge that views the synthesized, yet categorically changing, event as the

basic "stuff" of the universe. Philosopher Stephen C. Pepper (1942) developed contextualism from the work of American pragmatists such as John Dewey, William James, George Herbert Mead, and Charles Peirce. Pepper felt that the writings of these men contained elements of other, incompatible philosophies, and he attempted to present a purified pragmatism.

The basic categories of contextualism are the quality and the texture of the changing event. Quality refers to the total meaning of the event, and texture consists of the details that define a quality. The texture may include details from the past and others that point toward the future. These details become fused to varying degrees in the minds of observers. Pepper (1942, p. 243) illustrated fusion with a musical chord; if a musician changes one of the tones, an entirely different quality will result (e.g., a major versus a minor chord). In turn, the texture includes strands and a context. A strand contributes directly and a context indirectly to the quality of a texture, although formally the two are inseparable (Pepper, 1942). By altering the strands or context, the meaning of an event may change. For example, the elements that define a professor's behavior as lecturing include its topic, the presence of students, and a classroom. Remove the students, and observers might characterize the event as the professor talking to himself or herself.

Labeling something an event, rather than a strand or context, is arbitrary (Pepper, 1942). One could regard the professor's lecturing as a strand or context in the texture of another event, such as a student taking notes. As a result of the view that nothing can be studied in isolation from its context, contextualists recognize the

utility of analysis, but argue that knowledge never can be absolute, complete, or final. "In the extended analysis of any event we presently find ourselves in the context of that event, and so on from event to event as long as we wish to go, which would be forever or until we got tired" (Pepper, 1942, p. 249). Because of its arbitrary nature, contextualists argue that serious analysis must be at least indirectly practical (Pepper, 1942). Of analysis for its own sake, the contextualist asks: "What is the good of it, except as the mere fun of paddling about in the ocean of things?" (Pepper, 1942, p. 250).

A contextualist judges the truth of a proposition more by its usefulness for attaining scientific goals such as the prediction, explanation, understanding, and control of events (cf. Jenkins, 1974) than by whether a theory or hypothesis copies or mirrors a phenomenon of interest. No pragmatist would equate the fused quality of a useful theory or hypothesis with the holistic qualities of events in the world, although these will have common strands. For example, early contextualists (e.g., Tolman, 1932) viewed scientific ideas as maps that guide people in dealing with the world. A person reading a road map, however, experiences a quite different texture and quality than does someone who actually drives a given route.

To certain contextualists, research does not "test" the truth of universally applicable theories and hypotheses. Rather, its purpose is to uncover the latent assumptions of a theorist and thereby help establish the contexts in which an idea is "true" and those in which it is false or misleading, (McGuire, 1983). A scientist stating a hypothesis (exposure to television in children lessens academic achievement) and advancing a theoretical rationale for it (time

displacement) really makes implicit assumptions about the range of applicability of the theory and hypothesis. Research then is needed to explicate the quality (i.e., meaning) of the theorist's act.

Less conventionally, McGuire (1983) argues that all theories and hypotheses should be assumed true a priori, but only in certain situations.[1] Knowledge, he argues, always is distorted, but the seriousness of distortion varies situationally. Because any scientific theory frequently is relatively false, ideas opposed to it sometimes will be true, especially in ways suggested by their latent assumptions. Thus, according to McGuire, theorizing is not a zero-sum game. A researcher can expect to find that not only will opposing hypotheses be true in different contexts, but different theoretical mechanisms consistent with a given hypothesis also will be true and false, depending upon circumstance. For example, researchers can anticipate that exposure to television violence can both contribute to and inhibit viewer aggression and that a variety of theoretical mechanisms (e.g., excitement transfer, modeling) can be at work.

Fusion and media-related effects

It sometimes is argued that a concern with the effects of the mass media reflects philosophical pragmatism (e.g., Tan, 1985), evidently because such research concerns applied problems in the "real" world. This strand of pragmatism is only perhaps the most obviously applicable one, however.

Event fusion clearly separates contextualism from other "world hypotheses," such as mechanism, that Pepper (1942) also considered adequate. Mechanism, which rests on the metaphor of the world as a machine, assumes the existence of permanent structures in the world.

It also assumes that a scientist theoretically can analyze an event or object completely by examining its components. In short, it categorically rejects fusion. Outside of contextualism, fusion "is interpreted away as vagueness, confusion, failure to discriminate, muddleness. Here it has cosmic dignity" (Pepper, 1942, p. 245).

A number of statements about the conditional effects of the media hint at the role of fusion in understanding effects research. For example, Klapper (1960, p. 8) wrote: "Mass communication ordinarily does not serve as a necessary and sufficient cause of audience effects, but rather functions among and through a nexus of mediating factors and influences." Others (e.g., Schramm, Lyle, & Parker, 1961) have spoken of television under certain conditions and with certain types of people having a given effect, but having a different impact if the conditions or people are altered. Of course, a mechanist could interpret such statements as reflecting the forces governing separate objects. With a little rewording, however, the idea takes on a decidedly contextualist tinge: when the same media stimulus is embedded in events with different textures and qualities, effects may change.

According to contextualism, a person reading a newspaper or watching television experiences synthesized yet constantly changing events, the quality of which is defined at a given point in time by the nature of the medium, the specific content seen, the emotional state of the reader or viewer, the room temperature, etc. Any analytic attempt to separate these elements, even including the stimulus and any response by or effect on the reader or viewer, may be scientifically useful but will result in distortion. That is to say,

analysis involves removing both the content and the response from the natural events in which they occur, events which have their own textures and qualities, and placing the content and response within different textures and qualities (the theory) that may be convenient for attaining the goals of science (cf. Pepper, 1934). If contextualism is "true," then distortion can be minimized if researchers keep in mind that any observed effect on the reader or viewer occurs in response to the holistic quality of the event or series of events, rather than to the content alone. Thus, it seems semantically more desirable to speak of media-related effects rather than of media effects, which imply that the media content alone is responsible. For a contextualist, to imagine media content as separable from its contexts is, to borrow a phrase from Bhaskar (1983, p. 87, as quoted in Georgoudi & Rosnow, 1985, p. 9), "like imagining smiles alongside or beside faces."

Any discussion of the effects of mass communication rests upon causal reasoning, and it is sometimes argued that concern with cause and effect is "mechanistic." This is true, however, only if saying that one thing is a cause of another reflects the idea that the two "are discrete parts that exist independently of their relation, or of the scientist's act of analyzing the whole into parts" (Hayes, Hayes, & Reese, 1988, p. 105). In short, a media-related effect occurs when the texture and quality of one media-related event (e.g., exposure to news) results in changes in a person's contribution to a later event (e.g., answering a questionnaire measuring public-affairs knowledge). Therefore, the later event will by definition have a quality different from the event that would have occurred without the earlier, media-

related event. Strictly speaking, of course, the later event is not separable from the media-related event because if effects occur, the two events will have common strands (e.g., the information in news) that help determine the qualities of each.[2]

Viewing effects as media-related also would emphasize that a variety of policy options, including some that do not attempt to control media content, always may be present for dealing with any socially undesirable outcomes related to mass communication. Research that maps the boundaries of truth to a theory and hypothesis can be especially useful in avoiding regulatory measures that the First Amendment may proscribe. For example, some evidence indicates that sexual arousal following exposure to pornography increases aggression in men who have been angered, but not among the unangered (see the review in Gray, 1982). That is to say, arousal and prior anger become fused in producing a response. To attempt to deal with this problem, society could either adopt legal controls to lessen the availability of such stimuli, warn people against such exposure when angry, or even attempt to modify aspects of everyday life that produce anger.

Assuming that any theory or hypothesis will be true occasionally and that people respond holistically to fused stimuli; the mechanistic, common-sense idea of powerful, universal, and uniform effects of the mass media seems unlikely. Exposure to mass communication generally will not be either a necessary or sufficient condition for anything, and its contribution to the behavior of its audiences is likely take radically different forms, as circumstances vary. On the other hand, such descriptions still may prove useful to science in specific, and evidently extremely rare, contexts. More

importantly, however, effects do not have to be massive to be important to theory or to practice, and contextualism suggests a methodological pluralism that can help researchers make their case.

Methodological considerations in assessing media impact

Both empirical evidence and philosophical considerations indicate that social scientists should largely reject the popular idea of massive media effects. On the other hand, social scientists may have ignored other, more meaningful, components of popular ideas about mass communication. In discussing mass communication, ordinary people do not think like social scientists. They are not likely to discuss effects in terms of statistical significance or measures of explained variation, for example. If a communications researcher asked a retailer what an important advertising effect would be, the merchant likely would answer in a simple way: "A campaign that increases my business volume by 40%." Thinking in similar terms may be what effects researchers need to do to establish the import of their work.

Contextualism, according to McGuire (1983), implies an emphasis on descriptive, as well as inferential, statistics. After more than 50 years of empirical research into the impact of the mass media, and despite McGuire's admonition that all theories and hypotheses occasionally are true, researchers still seem oriented primarily toward assessing whether the media have effects on their audiences. A major reason more definite conclusions about the importance of media-related effects are not possible may be that research reports contain insufficient information to assess their import. Just as multiple theories and hypotheses are necessary to adequately specify the relationship between two variables, multiple descriptive indicators of

the degree of relationship between variables are needed to examine properly their theoretical or practical importance.

More specifically, researchers who study the impact of mass communication can examine, report, and discuss both standardized and unstandardized indicators of the relationship between exposure to mass communication and their dependent variables (keeping in mind, of course, the results of inferential tests). Standardized indicators reflect both how much a dependent variable changes along with one or more independent variable and how much variance exists in the variables. These include correlations, measures of explained variation, and standardized regression coefficients. Unstandardized indicators, including unstandardized regression coefficients and comparisons of within-cell means, describe only the average amount of change in a dependent variable that is associated with a given change in an independent variable.

In fact, reports of nonexperimental studies examining possible media-related effects, or at least those contained in standard communication journals, generally contain only standardized descriptors. Articles reporting experimental studies usually contain within-cell means, as well. These studies, however, often are less pragmatically useful for assessing the magnitude of "real" world effects, according to standard arguments (e.g., Berkowitz & Donnerstein, 1982). Even in reports of experiments, the magnitude of observed differences in within-cell means seems often to receive little emphasis in research discussions.

A degree of controversy long has existed about the desirability of interpreting and reporting standardized versus unstandardized

indicators, but certain positions have become fairly standard. Methodologists associated with path and regression analysis (e.g., Blalock, 1967a, 1967b; Wright, 1976) have emphasized the need to use unstandardized indicators to state scientific laws or to compare two populations for the presence of similar causal relations. Most research has one of these purposes, according to Blalock. Thus, unstandardized indicators are appropriate to describe a presumably universal law relating exposure to televised violence to aggression or to contrast different forms the law takes in different circumstances. In assessing the impact of one thing upon another within a specific population, rather than its effect more generally, Blalock (1967a, 1967b) argues that standardized indicators may be useful, however. For instance, despite a causal law relating exposure to televised violence to aggression, a standardized indicator may suggest that the impact of exposure is unimportant within a population whose members generally spend very little time with the medium.

One prerequisite for adequate interpretation of the relationship between two variables, according to King (1986), is the use of variables with substantively meaningful measuring units. For example, measuring the mean incidents of verbal or physical aggression per minute among a group of school children (Joy, Kimball, & Zabrack, 1986) provides a meaningful indication of aggression. If measuring devices are arbitrary or unfamiliar, as they often are with laboriously developed attitudinal scales, interpreting the meaning of relationships becomes difficult. In these cases, Cohen and Cohen (1983, p. 367) recommend the use of standardized coefficients. King (1986, p. 673), however, suggests collecting better data. At the very

least, a more-complete assessment of the magnitude of a media-related effect is possible when a researcher uses substantively meaningful variables.

Any type of indicator, examined outside of the context of others, may be misleading. Next, the paper will discuss what standardized and unstandardized indicators can tell us about media-related effects.

Standardized indicators

The Pearsonian correlation coefficient and its square, the coefficient of determination, illustrate a major problem with relying solely upon standardized measures in media research. The coefficient of determination indicates how much of the variability in a dependent variable can be attributed to changes in an independent variable, assuming a researcher meets the criteria for causal inference. A correlation between exposure to televised violence and aggression could be much higher in one population than in another even if identical amounts of additional aggression occur, per unit increase in exposure to televised violence, in each group. This could occur because the variance in exposure or in other factors that affect aggression is different in the two populations (Kim & Mueller, 1976).

The following formula illustrates these points:

$$r_{xy} = b_{xy} (s_x/s_y)$$

Holding constant b_{xy}, the unstandardized regression coefficient, the correlation will go down as s_x, the standard deviation of the independent variable, decreases (perhaps due to a restriction in the range of the independent variable in a population). It also will go

down as s_y, the dependent variable standard deviation, increases (due to an increased presence of other causes and/or random measurement error). In mass communication research, what seems at times to go unrecognized is that a substantively important effect can occur even if a correlation is low because numerous other factors also affect a dependent variable in important ways.3

For example, a researcher may measure the number of hours per week that children watch violent television programming and wish to associate this with the child's average number of aggression acts, per hour of play. Assume that the unstandardized regression coefficient is .2, indicating that for every 5 additional weekly hours of viewing, mean incidents of aggression per hour increase by 1. If the independent variable has a standard deviation of 1, and the standard deviation of the dependent variable is 2, the correlation will be .10. On the other hand, if the dependent variable has a standard deviation of .5, perhaps because certain other causes are absent, the correlation will increase to .40. In the former case, exposure accounts for only 1% of the variation in aggression; in the latter, it accounts for about 16%. The average amount of increased aggression associated with an hour's increase in viewing, however, is identical.4 What really changes is the researcher's ability to predict from viewing data how aggressive a child will be.

One other problem is recognized commonly. Researchers often try to explain the evident weakness of the effects of television by mentioning attenuated variance in independent variables--e.g., that television viewing is virtually universal in the United States. A third problem is rare in media research. A correlation can indicate

that a substantially trivial effect is important. This is likely to occur when a researcher is using a dependent variable that in fact varies very little. At an extreme, the correlation will be at its maximum, 1 or -1, if the dependent variable covaries perfectly with the independent variable. This will be true even if only a substantively trivial change occurs in a dependent variable at different levels of an independent variable.

Standard research guides often identify relationships as trivial or weak unless one variable correlates about .30 with another--i.e., explains about 9% of the variation. Such statements really are applicable only to a researcher who is trying to use one thing to predict another. For other purposes, then, these are at best a partial indicator of effects size. Given the problems with standardized indicators, one might be tempted to exclude these from research reports (cf. King, 1986). Standardized indicators can have intuitive meaning, however, at least under certain conditions (Rosenthal, 1986). For example, a correlation of .14 between media violence viewing and subsequent aggression implies that 57% of those above the median in viewing also will be above the median in aggression (Rosenthal, 1986, p. 150). At the very least, routinely including correlations and measures of explained variation probably is useful, if only as a constant reminder of the difficulties involved in predicting human behavior by relying on a small number of theories and variables.

In a regression analysis using only one independent variable, a standardized regression coefficient equals the correlation. In cases using multiple predictors, partial standardized coefficients are not

equal to partial correlations, but the same points apply (King, 1986). Standardized indicators represent, of course, the unstandardized coefficients that would occur between variables transformed as z-scores.

According to King (1986), researchers who report standardized coefficients often believe that they permit comparisons of the magnitude of effects from different independent variables, if one's data meet criteria for causal inference. Thus, a social scientist may claim that education has a more-important impact on a person's public-affairs knowledge because a 1 standard deviation increase in education is associated with a .4 standard deviation increase in knowledge, twice as much as occurs with a 1 standard deviation increase in newspaper readership. Only if unstandardized variables are on "meaningfully common units of measurement is there a chance of comparison," according to King (1986, p. 670), because standardization does not add information. Therefore, according to his argument, no meaningful comparison of the coefficients for newspapers and for education is possible. On the other hand, it may make sense to compare the impact on public-affairs knowledge of one hour per day in increased newspaper readership versus one hour per day of additional exposure to television news. This point applies, of course, to other standardized indicators, for example when a researcher concludes that a demographic measure has a more powerful effect than does exposure to some form of media merely because the demographic indicator accounts for more of the variation in a dependent variable.

Unstandardized indicators

In media research, the fact that attenuated variance often is

used to explain why measures of predicted variation are small implies that researchers should examine unstandardized measures, which restricted independent-variable variance has little effect on (Cohen & Cohen, 1983, pp. 70-72). As a practical matter, whether to report within-cell means or unstandardized regression coefficients often can be decided by convenience or by whether one's data contain the multiple observations at different combinations of independent variables necessary for meaningful within-group means. The within-cell means really are predicted values that could be derived from unstandardized coefficients. The only real advantage to reporting within-cell means is that these provide information not only about the expected change in a dependent variable per unit change in an independent variable, but also about the percentage change. If it makes sense to say, for example, that as exposure to televised violence doubles, so does the frequency of playground aggression among children in elementary school, emphasizing these (or actually calculating and reporting various predicted values) is more meaningful than simply reporting unstandardized coefficients.

The major danger of relying upon unstandardized indicators involves sampling error. The fact that changes in the variance of the independent and dependent variable have little effect on the unstandardized coefficients can be a weakness, as well as a strength. Holding sample size constant, decreased variance in an independent variable or increased variation in a dependent variable expands the range of likely population values for a given unstandardized coefficient. In turn, such changes in variance increase the chances that a researcher will observe a large (or small) coefficient when the

population value is small (or large). The almost universal practice of reporting inferential statistics in effects studies diminishes this danger. Perhaps the routine reporting of confidence intervals for unstandardized coefficients also is needed. Confidence intervals indicate both whether a researcher can reject a null hypothesis and the range of plausible population values for an unstandardized sample coefficient.

Examples

What we do not know, of course, is how much routine interpretation of unstandardized regression coefficients or within-cell means will add to our understanding of the importance of evidence of media-related effects. In many cases, conclusions that effects seem to have little social or theoretical import may remain unchallenged. Nonetheless, researchers who do not at least examine such measures do not give themselves a fair chance.

The results of one series of studies imply, in an extremely preliminary way, that effects sometimes may be marked when standardized indicators suggest trivial relationships. Huesmann and Eron (1986) conducted a longitudinal study of the impact of exposure to television violence upon aggression in U.S. schoolchildren. At about the same time, other researchers replicated the study in four foreign countries. In each country, scientists interviewed two cohorts, initially in either grade 1 or 3, three times. Intervals of 12 months separated each interview. The researchers analyzed how strongly related some measure of exposure to televised violence at times 1 and/or 2 was to aggression at time 3, controlling for aggression at time 1. Their dependent variable was constructed by

separately asking each of a child's classmates whether the classmate ever had observed the child engaging in one of 10 types of aggressive behavior (e.g., disobeying a teacher or pushing and shoving).

Only the Polish and U.S. researchers reported within-cell means illustrating the possible effects, however. A relatively marked effect apparently occurred among Polish children. The partial standardized regression coefficient between preference for violent television in waves 1 and 2 and aggression in wave 3, controlling for both prior aggression and cohort, appeared weak (.14) but attained significance (Fraczek, 1986, p. 149). The coefficient remained the same within each gender group. Within four of the six levels of combined gender and prior aggression (low, medium, or high), however, those who were high in preference for television violence during the first two waves were identified with aggressive acts at least 48% more often than were those low in such preference (see Fraczek, 1986, p. 150). The only exceptions occurred among Polish boys low or moderate in initial aggression, for whom little effect was evident.

The U.S. researchers reported no overall coefficient for boys and girls together. For U.S. girls, the standardized partial regression coefficient (controlling for aggression and grade at time 1) between violence viewing in the first and second waves and aggression in wave 3 was small (.135), but statistically significant (Huesmann & Eron, 1986, p. 61). Among boys, it did not attain significance. Comparisons of cell means for girls who were high and low in exposure to televised violence, within the three levels of aggression at time 1, also suggested a weaker effect than for the Polish children. Class peers associated girl heavy viewers with specific aggressive acts

more often than light viewing girls who were at the same level of prior aggression (Huesmann & Eron, 1986, p. 64).

Thus, even though almost identical standardized regression coefficients were present, televised violence appeared to have a more-marked effect on children in Poland than among U.S. girls. In fact, however, the two available tables illustrating within-cell means actually used somewhat different independent variables. The Polish data concerned violence of preferred shows, and the U.S. independent variable reflected both the violence of preferred programs and the frequency with which the child reported seeing them. Of course, problems also exist in trying to interpret these researchers' dependent variable, the meaning of which is open to some debate. One cannot necessarily conclude that among many Polish children, televised violence doubled the number of aggressive acts. A single incident that all of a child's classmates observed could affect the dependent variable much more than would an equally aggressive incident that only one classmate saw, for instance. That is to say, television violence might have increased a child's willingness to behave aggressively with others around as well as the frequency of aggression. In addition, data in the table for U.S. girls indicated the percentage of all possible peer nominations, while the table for Polish children evidently concerned the absolute number of peer nominations. Finally, no information about subgroup size was provided for the Polish children. These accounts clearly were not written to emphasize interpretation of differences in within-cell means.[5]

For one aspect of another study concerning the possible causal impact of television on behavior, Joy, Kimball, and Zabrack (1986) did

not report standardized measures. Considered along with the results of inferential tests, their cell means provide evidence of the importance of the possible causal impact of television on behavior, however. In 1973, television became available for the first time to a small, but evidently fairly typical, Canadian community. Just prior to this, trained coders recorded the amount of physical and verbal aggression during play time for a group of young children in the community and in two matched towns that already had the medium. Two years later, the behavior of the same children again was observed. In the town that had television only for two years, the average rate of physical aggression per child had more than doubled (from less than one incident every two minutes before television to more than one per minute two years later), and verbal aggression was almost twice as high (Joy, Kimball, & Zabrack, 1986, p. 341). Both changes attained significance. In the other two communities, no significant changes were observed. The importance of television-related changes in their measure of aggression seems relatively understandable even to a layperson. Even if television availability accounted for only a small proportion of variance in children's aggression, the cell means suggest something of potential importance.

Conclusions

This paper has argued that the common-sense idea of powerful, universal, and uniform effects of mass communication is contrary both to empirical evidence and the philosophical position of contextualism. On the other hand, it argues that important effects still can occur. Contextualism suggests that researchers who study media-related effects need to report both unstandardized and standardized indicators

of the relationship between independent and dependent variables. Certain journals (e.g., Human Communication Research) already require the reporting of measures of explained variation for relationships that attain statistical significance. If journals that contain reports of media-related effects would encourage the reporting and interpretation of unstandardized measures, the theoretical or practical importance of media-related effects might become more evident.

Finally, though, contextualism suggests that the meaning of standardized or unstandardized indicators of the magnitude of a media-related effect can be assessed only in relation to details of the events they represent. To a contextualist, "all knowledge is perenially conceptual and conjectural and no method can conclusively demonstrate the 'truth'" (Georgoudi & Rosnow, 1985, p. 7). Thus, no absolute, universal standards concerning the magnitude of media-related effects exist. For example, McGuire (1986, p. 183) notes that political advertisements, which generally appear to have only small effects on voting decisions, very well may decide the outcome of a close election. Therefore, an unstandardized indicator might suggest that a political advertisement swung a close election by changing 4% of the vote. Huesmann (1986, p. 257) argues that even if media violence is responsible for only 1% of the variation in U.S. homicides, it accounts for at least 200 murders per year. On the other hand, evidence that an advertising campaign had a massive effect on consumer attitudes would be of little importance if attitudes had little impact on behavior. At bottom, then, only empirically enlightened logic can address the import of a media-related effect.

Notes

[1]At first glance, McGuire's assertion that all theories and hypotheses are correct, but only occasionally, seems a rather radical addition to contextualist philosophy. In fact, however, it may be less extreme than is standard contextualism, which makes disorder so categorical a feature that it does not exclude order (Pepper, 1942). Contextualist categories "must be so framed as not to exclude from the world any degree of order it may be found to have....order being defined in any way you please, so long as it does not deny the possibility of disorder or another order in nature also" (Pepper, 1942, p. 234). In effect, Pepper's contextualism would assume that some theory or hypothesis could be true in a vast array of different contexts. McGuire's position does seem consistent with social psychological evidence to date, however.

[2]In addition, nothing in contextualism prevents a scientist from using mechanistic analogies (e.g., the mind is a machine), as long as the "truth" of the analogy is evaluated against the contextualist criterion. Hayes, Hayes, and Reese (1988) even argue that B. F. Skinner was a contextualist who used mechanistic analogies to attain pragmatist goals (see also Smith, 1986 for a discussion of pragmatist influences on Skinner).

[3]Researchers in a variety of fields have recognized that if one variable accounts for only a small amount of the variation in another, the causal impact present may not be trivial substantively. For example, Abelson (1985) presents evidence that in choosing from among possible pinch hitters, a baseball manager normally can influence only about one-third of 1% of the variation in whether the batter gets a

hit. Abelson suggests that even that amount of explained variation per at-bat may make a major difference in a team's record during a 162 game season, however. Cohen and Cohen (1983, p. 66) report that smoking accounts for only 1% of the variation in lung cancer (r=.10). This occurs because the vast majority of both nonsmokers and smokers never will develop evidence of the disease, and smoking data only allow a slight improvement over chance in prediction. Nonetheless, the risk of the disease is about 11 times greater for smokers, and medical researchers attribute the majority of such cases to smoking.

[4]Of course, insofar as is possible, a researcher performing such research would need to control for other factors that may also influence the dependent variable. An example from bivariate regression/correlation analysis is presented here purely for the sake of simplicity. The point made extends to multiple regression/correlation analysis.

[5]This may be so because the peer-nomination measure of aggression simply is not comparable across cultures. Eron and Huesmann (1986, p. 41) noted that Finish children tend to nominate their classmates for any sort of behavior much less frequently than Israeli children, for example. Thus, different average levels on the measure in different cultures may indicate either cultural differences in aggression or in nomination tendencies.

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